UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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CIM MAINTENANCE INC.
Petitioner

v.

P&RO SOLUTIONS GROUP, INC.
Patent Owner

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Case No. Case No. IPR2017-00516
Patent 8,209,205

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DECLARATION OF PHILIP GREENSPUN, PH.D.

I, Philip Greenspun, Ph.D., hereby declare the following:

I. BACKGROUND AND QUALIFICATIONS

1. Summarized in this section are my educational background, career history, and other relevant qualifications. I have also attached a current version of my Curriculum Vitae as Exhibit 1018.

2. I am a salaried employee of Fifth Chance Media LLC, which is being compensated for my work on this matter at a rate of $475.00 per hour.

3. I received a Bachelor of Science in Mathematics from the Massachusetts Institute of Technology (MIT) in 1982. In 1993, I received a Master's in Electrical Engineering and Computer Science from MIT. I received a Ph.D. in Electrical Engineering and Computer Science from MIT in 1999. My Ph.D. dissertation concerned the engineering of large online Internet communities with a Web browser front-end and a relational database management system (RDBMS) containing site content and user data.

4. I have authored five computer science textbooks in total, including Database Backed Websites (Macmillan), Software Engineering for Internet Applications (MIT Press), and an SQL language tutorial.

5. As it happens, one of my earliest exposures to a computer program was as an unpaid intern in 1977 through 1978 at Potomac Scheduling Company, a Bethesda, Maryland-based firm. The business of Potomac Scheduling Company

was developing, maintaining, and operating computer programs for scheduling that ran on the computers of the period, including a UNIVAC 1100-series mainframe and a Tandem "NonStop" fault-tolerant computer. An example customer was the United States Postal Service, for which a Potomac Scheduling Company program determined on which airline flights mail and packages should be sent.

6. I began working full-time as a computer programmer in 1978, developing a database management system for the Pioneer Venus Orbiter at the National Aeronautics and Space Administration's Goddard Space Flight Center.

7. In the early 1980s I developed computer-aided design software for electronic systems, specifically to assist digital hardware engineers designing processors at Hewlett-Packard and Symbolics. These systems relied on an in-memory database of electronic circuits.

8. I co-developed a computer program for computer-aided design of mechanical systems in the mid-1980s, called the "ICAD System." The ICAD System enabled engineers to decompose a mechanical design into a hierarchy of subassemblies and establish configuration rules at each level of subassembly. The end-result was a system in which it was possible to go from customer specifications to a finished design without human intervention. The software built an in-memory database of mechanical components, which could be written out to a hard drive for persistent storage. The first applications for the ICAD System

involved large structures built from steel, such as house-sized air-cooled heat-exchangers used in commercial buildings and industrial plants. The product survives today as Oracle Configurator, part of the Oracle Applications suite of business software.

9.   I developed my first program using a relational database management system in 1994. It was a Web interface to the Children's Hospital Oracle RDBMS, Version 6. This application enabled doctors at the hospital to view patient clinical data using any computer equipped with a Web browser.

10.   In 1995, I led an effort by Hearst Corporation to set up an infrastructure for Internet applications across all of their newspaper, magazine, radio, and television properties. This infrastructure included software for managing users, shopping carts, electronic commerce, advertising, and user tracking. Web pages were generated on-the-fly by computer programs querying a relational database management system, which also served as a central storage point for information regarding user activity and customer purchases.

11.   Between 1995 and 1997, I significantly expanded the photo.net online community that I had started in 1993 to help people teach each other to become better photographers. I began distributing the source code behind photo.net to other programmers as a free open-source toolkit, called "ArsDigita Community System."

The heart of the ArsDigita Community System was a SQL data model for the Oracle RDBMS.

12.   In May 1997, Macmillan published my first textbook on Internet Application development, *Database Backed Websites*. A September 1998 update to this book was published as *Philip and Alex's Guide to Web Publishing* (hardcopy version published in April 1999).

13.   In 1997, I started a company, ArsDigita, to provide support and service for the ArsDigita Community System. Between 1997 and the middle of 2000, I managed the growth of ArsDigita to 80 people, almost all programmers, and $20 million per year in annual revenue. This involved supervising dozens of software development projects, nearly all of which were Internet Applications with a Web front-end and an Oracle RDBMS back-end. As the founder, CEO, and chief technical employee of the company, I personally developed functional specifications, SQL data models (Structured Query Language, or "SQL," the standard programming language for relational database management systems), and Web page flows that determined the user experience.

14.   Between 2000 and the present, I have managed software development projects for various database-backed Internet applications, including philip.greenspun.com, photo.net, and postclipper.com, a Facebook application that

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